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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/177,729	10/23/1998	DAVID S. TAUBMAN	10960578-1	3513

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EXAMINER

HARRIS, TIA M

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 07/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/177,729

Applicant(s)

TAUBMAN, DAVID S.

Examiner

Tia M Harris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: term "is" should be inserted between "which" and "generated" (Pg. 6, Line 3), and a period should be placed after "grid" (Pg. 8, Line 17). Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acharya et al (6348929) (hereafter referred to as Acharya) in view of Deffontaines et al (5461503) (hereafter referred to as Deffontaines).

Acharya discloses a method for operating a data processing system to generate a second image from a first image comprising a two dimensional array of pixel values, the method comprising the steps of separating the pixels of the first image into a plurality of input image planes (Col 4, Lines 4-9), each input image plane having an identical number of pixels within a normalized horizontal and vertical sampling interval as the other input image planes, and all pixels in a given input image plane having the same spectral band as the other pixels in that input image plane (Col 4, Lines 9-16; Figs 4(a) – 4(d)), and representing the first image as a set of super input pixels, each of the super input pixels being a vector of dimension P, where P is the number of the input image planes, each component of that vector being an input pixel from a corresponding input image plane (Col 4, Lines 64-67; Col 5, Lines 1-3; Fig 2). Acharya teaches display of a

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scaled image, the scaled image being represented by super pixels having four color pixels (Figs 2 and 7), but does not specifically disclose the method steps of defining a set of output image planes and representing the second image as a set of super output pixels.

It is well known in the art that such a display may be accomplished using a triplet of pixels for each super pixel as taught by Deffontaines (Col 1, Lines 25-39). It is clear that by transforming the four-pixel super pixel of Acharya into a three-pixel super pixel would permit the display of the image using another widely used format. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to perform the cited additional steps in order to provide an image appropriately rendered for such a display. It would have been further obvious to supply a linear transformation in keeping with that used in the scaling operation of Acharya.

4. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acharya in view of Deffontaines as applied to claim 1 above, and further in view of Juenger et al (5778106) (hereafter referred to as Juenger).

Acharya in view of Deffontaines discloses a method for generating a second image from a first image, as discussed above. The apparatus for performing the method uses a camera (see Acharya, Fig. 7), which clearly has a lens system, but it is not specifically disclosed that the linear transformation depends on properties of the lens system, such as focal length and f-number, on the source of illumination, or on the type of scene captured.

In transforming an image for display, it is well known in the art to determine the transformation algorithm based on the characteristics of the component parts of the camera that takes the original image as taught by Juenger (Col 10, Lines 535; Fig. 10).

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These components clearly include a lens, focal length, f-number, source of illumination and captured scene relative to pixel size since each of these components are inherently present in a camera. In view of the teachings in Juenger, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the linear transformation in Acharya in view of Deffontaines so as to be dependent upon the recited camera and scene characteristics since, as taught by Juenger, accurate transformation of an image for display requires the use of these characteristics in the transformation algorithm.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bills (6366319) discloses a subtractive color processing system for digital imaging. Acharya (6392699) discloses an integrated color interpolation and color space conversion algorithm from 8-bit Bayer pattern RGB color space to 12-bit YCRCB color space. Addison (5990950) discloses a method and system for color filter array multifactor interpolation. Acharya et al (6236433) disclose a scaling algorithm for efficient color representation/recovery in video.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tia M Harris whose telephone number is 703-305-4807. The examiner can normally be reached on M-F 8:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on 703-308-9644. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-308-6606 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

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tmh *tmh*  
June 27, 2002



**ANDREW CHRISTENSEN  
SUPERVISORY PATENT EXAMINER  
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